CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

COUNTRY	USSR (Moscow Oblast)	REPORT NO.	25X1
SUBJECT	Development of Color Sensitivity Equipment at Institute 160, Fryazino	DATE DISTR.	29 June 1953
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25X1 DATE OF INFO.	October 1946 - December 1950	REQUIREMENT NO.	25X1
		REFERENCES	

25X1 THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

1. 25X1

2. This device was developed only for use with iconoscope tubes. It was to be used in determining what, if any, change in the color of the cathode paste occurred prior to its being sprayed on to the raster plate of an iconoscope tube. This was not to be a visual means of comparison; the difference in the paste was to be noted on a galvanometer.

3. Outlined below is a description of this device and its operation.

   a. A box-like affair with an aperture on the right side is shown on the first sketch (see Page 3). The aperture faced the large glass end of the iconoscope tube. For test purposes, the distance between the subject equipment and the iconoscope tube was maintained at approximately 65 mm.

   b. Also shown on this sketch (see Page 3) are three compartments. The largest one contained a 200-watt clear candlelight operating on 220 volts, 50 cycles AC. All sides of the three compartments were sprayed with the cathode paste.

   c. The wall separating the large compartment from the two smaller sections contained two openings approximately 35 mm. by 80 mm., one

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located in each compartment (see Page 4, side view). For light penetration purposes, these openings were manually controllable by shutters which slid horizontally.

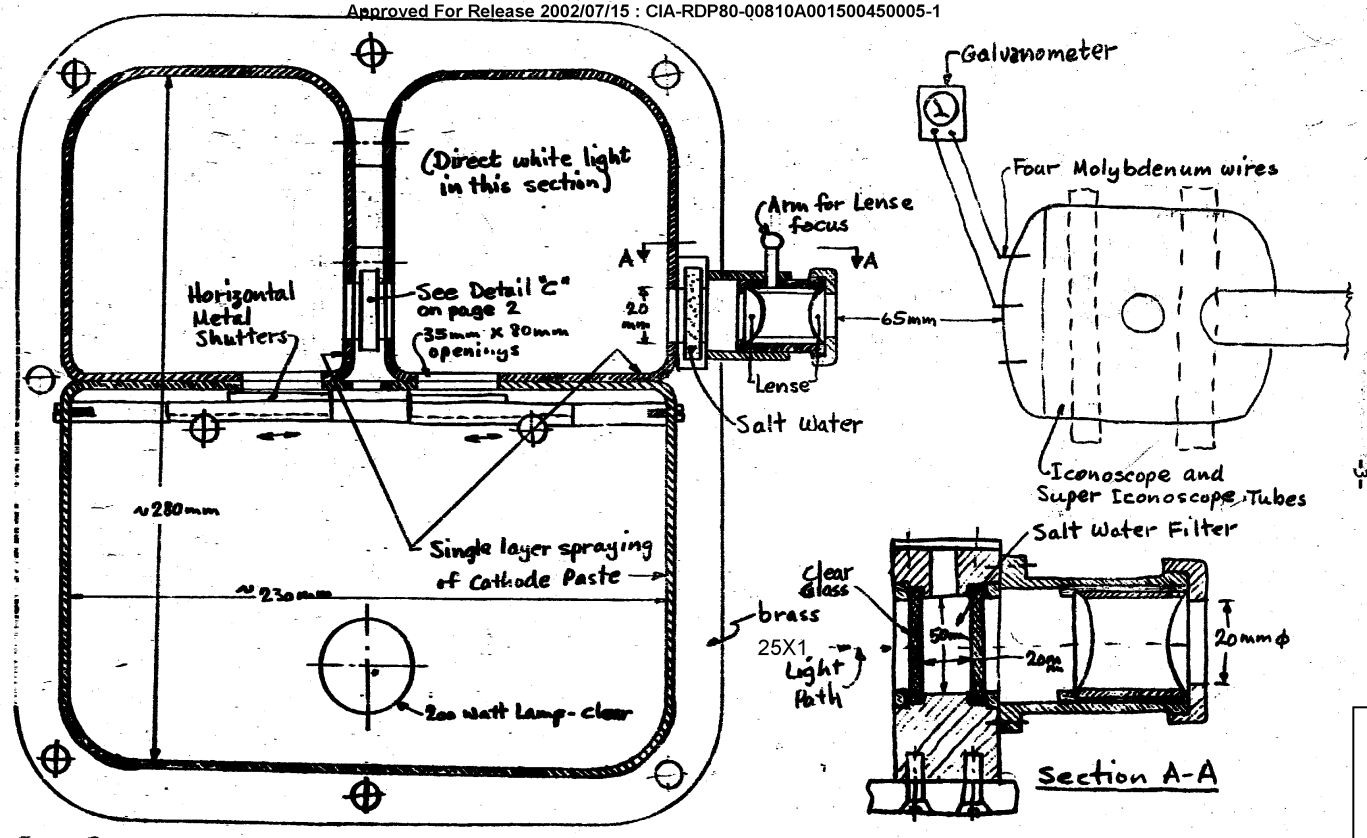
d. Separating the two smaller compartments was a wall which contained a color filter (see Page 4, Detail C, Color Glass Filter). This color filter could be raised and lowered depending upon which color was desired. The colors on the filter were red, green, and blue.

e. At this stage in the operation of the test equipment we used an artificial light which was reflected from the walls of the large enclosure through to either a section with a color filter, or, by blanking this section off, to the other section in its original state.

f. The next phase entailed the use of the aperture on the right side of the box (see Page 3, Section A-A). A small tank containing salt water was located just before the lense. The clear glass sides were circular and approximately 20 mm. in diameter; this tank was approximately 200 mm. wide and 50 mm. high. A circular opening was provided at the top for filling the tank. Two lenses, approximately 20 mm. in diameter, were located to the right of the glass tank. The openings of these lenses could be adjusted in the horizontal plane to a maximum width of approximately 40 mm.

g. The iconoscope tube was then placed on its side with the arm vertical, approximately 65 mm. in front of the first lense. Two of the four molybdenum wires were attached to a galvanometer, and the test was ready to commence.

4. Thus, in using this device, it could be noted whether any change had taken place between the cathode paste sprayed on the inside surface of the test apparatus, and the cathode paste sprayed on the raster plate inside the finished tube. The galvanometer was unaffected if no difference existed between the two cathode pastes; the tube was destroyed if there was a difference. A difference between the two cathode pastes may occur in the iconoscope tube during assembly or, on occasions, while the tube is being evacuated and the glass sealed. It may also result due to other causes of which I have no knowledge.



COLOR SENSITIVITY CONTROL EQUIPMENT

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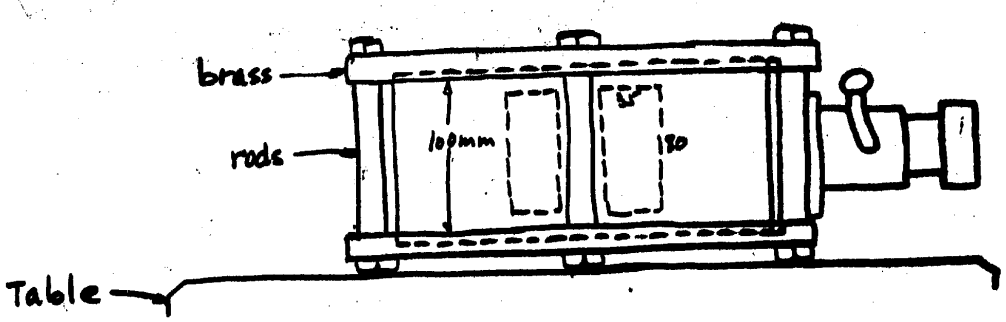
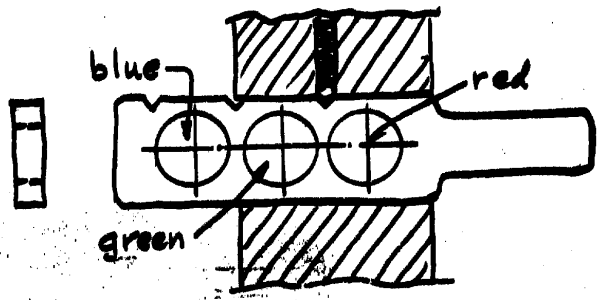


SIDE VIEW



DETAIL "C"
COLOR GLASS FILTERS